Amendments to the Claims:

The following listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

1. (currently amended) A light-emitting diode chip having an epitaxial semiconductor layer sequence with an active zone that emits electromagnetic radiation and an electrical contact structure comprising:

a radiation-transmissive electrical current expansion layer, which contains ZnO; and

an electrical connection layer;

wherein the current expansion layer is applied directly on a cladding layer of the semiconductor layer sequence and comprises a window, in which the connection layer is applied directly on said cladding layer of the semiconductor layer sequence, and said cladding layer is p-doped;

wherein the connection layer is electrically conductively connected to the current expansion layer; and

wherein a junction between the connection layer and the cladding layer, during operation of the light-emitting diode chip, is not electrically conductive or is only poorly electrically conductive such that an entire, or virtually the entire, current from the connection layer flows via the current expansion layer into the semiconductor layer sequence.

2. (original) The light-emitting diode chip according to claim 1,

wherein

the connection layer comprises a metal and the junction between the connection layer and the cladding layer comprises an electrical potential barrier.

3. (previously presented) The light-emitting diode chip according to claim 1,

wherein

a sheet resistance of intermediate layers of the semiconductor layer sequence between the active zone and the electrical contact structure is greater than or equal to 200 Ω/sq.

4. (previously presented) The light-emitting diode chip according to claim 1,

wherein

the current expansion layer comprises a sheet resistance of less than or equal to 190 Ω/sq.

5. (previously presented) The light-emitting diode chip according to claim 1,

wherein

the connection layer extends beyond the window on a side of the current expansion layer which is remote from the semiconductor layer sequence and is applied to a front-side surface of the current expansion layer so as to partly cover the current expansion layer and so that the junction between the connection layer and the current expansion layer is electrically conductive in this region.

6. (original) The light-emitting diode chip according to claim 1,

wherein

the semiconductor layer sequence is based on $In_xGa_yAl_{1-x-y}P$, $In_xGa_yAl_{1-x-y}As$, $In_xGa_yAl_{1-x-y}N$ or $In_xGa_yAs_{1-x-y}P$, where $0 \leq x \leq 1$, $0 \leq y \leq 1$ and $x + y \leq 1$.

7. (previously presented) The light-emitting diode chip according to claim 1, wherein

the cladding layer comprises $Al_xGa_{1-x}As_yP_{1-y}$, where $0 \leq x \leq 1$, and $0 \leq y \leq 1$.

8. (currently amended) The light-emitting diode chip according to claim 7, wherein

the cladding layer is [[p-doped]] <u>doped</u> with at least one of a dopant Zn and C.

9. (previously presented) The light-emitting diode chip according to claim 1, wherein

the cladding layer is doped with a dopant concentration of between about $5 \cdot 10^{17}$ and about $5 \cdot 10^{19}$.

10. (original) The light-emitting diode chip according to claim 1, wherein

the current expansion layer comprises Al.

11. (previously presented) The light-emitting diode chip according to claim 10, wherein

a proportion of Al in the current expansion layer is in a range of between 0% and 10% inclusive.

12. (previously presented) The light-emitting diode chip according to claim 1, wherein

the current expansion layer has a thickness of between 100 and 600 nm, inclusive.

13. (previously presented) The light-emitting diode chip according to claim 1, wherein

the current expansion layer has a thickness corresponding to about a quarter of a-wavelength of a radiation emitted by the light-emitting diode chip.

14. (previously presented) The light-emitting diode chip according to claim 1, wherein

the current expansion layer is provided with watertight material such that the current expansion layer is adequately protected against moisture.

15. (previously presented) The light-emitting diode chip component according to claim 14,

wherein

watertight material is applied to free areas of the contact layer.

16. (previously presented) The light-emitting diode chip component according to claim 15,

wherein

watertight material is applied to all the free areas of the contact layer.

17. (previously presented) The light-emitting diode chip according to claim 14,

wherein

the watertight material is a dielectric that is transparent to the electromagnetic radiation emitted by the light-emitting diode chip.

18. (original) The light-emitting diode chip according to claim 17,

wherein

the dielectric comprises one or more of the substances Si_xN_y, SiO, SiO_2, Al_2O_3 and SiO_xN_y.

19. (previously presented) The light-emitting diode chip according to claim 14,

wherein

a refractive index of the watertight material is less than the refractive index of the current expansion layer and is adapted so as to significantly minimize reflections of the radiation emitted by the light-emitting diode chip at interfaces with respect to the watertight material.

20. (previously presented) The light-emitting diode chip according to claim 14,

wherein

the current expansion layer has a thickness corresponding to about an integer multiple of half a wavelength of the radiation emitted by the light-emitting diode chip, and the watertight material has a thickness corresponding to about a quarter of said wavelength.

21. (previously presented) The light-emitting diode chip according to claim 14, wherein

the thickness of the watertight material is in a range of between 50 and 200 nm, inclusive.

22. (previously presented) The light-emitting diode chip according to claim 4, wherein

the sheet resistance is less than or equal to 30 Ω/sq.

23. (previously presented) The light-emitting diode chip according to claim 7, wherein

the cladding layer comprises $Al_xGa_{1-x}As_yP_{1-y}$, where $0.1 \leq x \leq 0.5$, and $y = 1$ or where $x = 0$ and $y = 0$.

24. (previously presented) The light-emitting diode chip according to claim 9, wherein

the dopant concentration is between about $1 \cdot 10^{18}$ and $1 \cdot 10^{19}$, inclusive.

25. (previously presented) The light-emitting diode chip according to claim 11, wherein

the proportion of Al is in a range of between 1% and 3%, inclusive.

26. (previously presented) The light-emitting diode chip according to claim 12, wherein

the thickness of the current expansion layer is between 450 and 550 nm, inclusive.